I. Environmental Assessment for Department Administrative Rules Related to the Redesign of the Nonpoint Source Program.

DECISION ON THE NEED FOR AN
ENVIRONMENTAL IMPACT STATEMENT

(This decision is not final until certified by the Director of the Bureau of Integrated Science Services)

In accordance with s. 1.11, Wis. Stats., and Chapter NR 150, Wis. Adm. Code, the Department is empowered to determine whether it has complied with s. 1.11.

The attached analysis of Proposed Revisions and/or Creation of chapters NR 120, 151, 152, 153, 154, 155, 216 and 243, Wis. Adm. Code pertaining to the redesign of the nonpoint program is of sufficient scope and detail to conclude that this is not a major state action which would significantly affect the quality of the human environment. An environmental impact statement is not required prior to final action by the Department to adopt this rule. This determination was made considering the attached analysis and the following factors:

Environmental Effects
Many water bodies in the state are currently not meeting their designated uses, often because of nonpoint sources of pollution. While it may take some time to see the benefits, reduction of pollutants from both agricultural and non-agricultural nonpoint sources will be a direct outcome of these rules. The short and long term effects on the environment from implementation of the performance standards will be positive.

Cumulative Effects
The cumulative impacts of nonpoint source pollution are responsible for many of our lakes and streams not achieving water quality standards. The state legislature, seeing this as a serious problem, required the department to develop performance standards and prohibitions designed to achieve water quality standards by limiting nonpoint source pollution. Implementation of the performance standards is intended to halt the continued degradation of our water resources and head us in the direction of returning streams and lakes to their designated uses. The cumulative effects on the environment will be positive.

Risk or Uncertainty
Since the performance standards are uniform, statewide standards, it is unclear whether they will be adequate for all water resources to achieve water quality standards. The department will need to determine whether targeted performance standards are needed for certain water resources. The rules allow the development, by administrative rule, to develop targeted standards if necessary to achieve water quality standards.

A second concern is that given the potential for inconsistency in implementation and administration of the standards, the lack of funding to require compliance with the agricultural performance standards and prohibitions for existing facilities, and the unpredictability of the effects of an information and education effort, the beneficial effects of the performance standards may not be observed in the near future.

Precedent
Promulgation of these rules will not prevent a local unit of government from setting a more stringent standard based on water quality needs. Livestock operation ordinances that are more stringent than the rules will need to approval of the department or the Department of Agriculture, Trade and Consumer Protection. The department also has the capability of establishing targeted performance standards if needed to meet water quality standards.

Controversy
There continues to be controversy associated with the rules. One concern is the parity in the performance standards between agricultural and non-agricultural sources and the requirement for funding to meet the standards for only the agricultural sources. This was established by the legislature and cannot be addressed by the rules. A second concern is that the performance standards are statewide, uniform applications rather than water quality based. This may result in water quality goals not being met in all water bodies. The department can establish targeted performance standards to meet this concern. The economic and governmental sectors affected by these rules are concerned with increased regulation and the costs involved. These rules are promulgated under the direction of the state legislature and have been developed in conjunction and consultation with affected stakeholders. The department has carefully considered all comments received and adjusted these rules as much as possible, while remaining true to the direction of the state legislature to achieve water quality goals.

_____ _____
Russell A. Rasmussen Date

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Mary Anne Lowndes, Evaluator Date

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Tom Bauman, Evaluator Date

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Carol Holden, Evaluator Date

_____ _____
Al Shea, Director Date
Bureau of Watershed Management

Certified to be in compliance with WEPA

_____ _____
Director, ISS (or designee) Date

II. History and Background

The department is proposing to create five new administrative rules, revise one existing rule and repeal and recreate two rules in response to 1997 Wisconsin Act 27 and 1999 Wisconsin Act 9. These legislative actions, modifying Chapter 281, Wis. Stats., require changes to the department's nonpoint source water pollution abatement program. Major components of the laws required that DNR develop performance standards for non-agricultural activities; that DNR, in cooperation with the department of agriculture, trade and consumer protection (DATCP), develop agricultural performance standards including manure management prohibitions developed by the Animal Waste Advisory Committee (AWAC); that DNR specify a process for the development and dissemination of non-agricultural technical standards to implement the non-agricultural performance standards, and the creation of two new grant programs. There is a list of the requirements of Act 27 and Act 9 in the Background Memo.

The statutory changes were driven by several internal and external factors that occurred over the past several years. One factor was a 1994 Legislative Audit Bureau report recommending changes to the Nonpoint Source Water Pollution Abatement Program and the Animal Waste Management Program. Another driving force was a desire to implement the recommendations of the Animal Waste Advisory Committee (AWAC) issued in 1994. Additional factors include a desire to eliminate duplication between programs and streamline state-level program administration, the need for a faster and more effective process to address the state's nonpoint source pollution problems, and a desire to enhance federal, state, and local partnerships and shift more decision-making to local levels.

The department conducted 14 statewide listening sessions in 1998 and again in 1999 to gather public input, and established inter-agency work groups to develop performance standards and recommend other changes to the programs. The performance standards were developed through the cooperative efforts of the department, DATCP, the department of transportation and the department of commerce with guidance from an Outreach Advisory Committee (OAC) comprised of representatives from agriculture, environmental organizations, local, state and federal government, and industry (see Attach. 2).

After the recommended changes were written into the administrative rules, the department conducted 22 public hearings in March 2000 and received over 2,000 comments from both the hearings and during the comment period that ended May 5, 2000. In response to those comments, the department implemented a process that identified key issues, created work groups of diverse interests to address the issues, and proposed a new timeline that included a request for further public hearings. A list of the issues and recommendations are attached to the Background Memo.

The department revised the draft rules based on public comments and conducted 12 public hearings around the state in March 2001 and received nearly 2,000 comments during the comment period that ended April 20, 2001. The final rules draft is based on those comments.

The Runoff Management Section of the Bureau of Watershed Management was the department's primary participant in the rule-development process. The Bureau of Fisheries Management and Habitat and the Floodplain and Shoreland Management Section of the Bureau of Watershed Management were consulted on the use of buffers as a performance standard. They support buffers and rule language strong enough to encourage them. The Bureau of Drinking Water and Groundwater was involved in both the infiltration performance standard and the manure stacking prohibition and the effects on wells and water supplies. The Bureau of Community Financial Assistance provided both language and review for cost-sharing and financial requirements. The Bureau of Integrated Science Services was consulted for laboratory certification questions.

Attached to this document is the Summary of Issue Identification Activities (Attachment 1), membership of the Outreach Advisory Committee (Attachment 2), membership of the functional work groups that initially developed the performance standards (Attachment 3) and membership of the key issue work groups convened after the March 2000 hearings (Attachment 4).

III. Proposal Description

A. Proposal objectives

The performance standards and prohibitions that form the core of the administrative rules under consideration are intended to meet the water quality standards for Wisconsin waterbodies by limiting nonpoint source pollution. The Environmental Protection Agency (EPA) identified urban and rural nonpoint sources of polluted runoff to be a leading cause of surface and groundwater quality problems in Wisconsin. The Wisconsin Legislature and the Governor, recognizing the impacts that nonpoint source pollution pose to the state's water resources, enacted legislation to change the state's approach to addressing polluted runoff from both agricultural and non-agricultural sources. Performance standards are proposed for the control of soil erosion and manure runoff from farm operations, soil and sediment from construction sites, and toxic pollutants, sediment and other pollutants from urban and urbanizing areas. The performance standards and prohibitions can be met through the installation of best management practices, alterations to management practices or through design changes. Greater detail on each of the rule changes to meet this objective can be found in the Background Memo.

The performance standards and prohibitions are also designed to meet the objective of a more comprehensive approach to control nonpoint source pollution in Wisconsin and to restore designated uses to waterbodies degraded by polluted runoff. Implementation of the performance standards and prohibitions through local ordinances will also achieve the objective of conveying more implementation and enforcement capabilities to local governments.

B. Key studies, assumptions or policies

The concept of redesigning the Nonpoint Source Program with performance standards and prohibitions at the core stemmed from several policy changes noted in the History and Background section. A key assumption was that the existing program developed to address nonpoint source pollution, the Priority Watershed and Lake Program, was not adequately achieving the intended results. There was also a desire to implement the recommendations of the Animal Waste Advisory Committee. A policy decision by the department to more closely align its regulatory point source programs for Storm Water Management and Animal Waste Management with its nonpoint source control program was an additional component..

References cited as well as policies and studies that helped shape the proposal are listed below.

Bannerman, Roger. Sources of Pollutants in Wisconsin Storm Water, 1993. The sources of pollutants in a Wisconsin urban environment are identified in this paper.

Betz, Carolyn Nonpoint Source Control Plan for the Lake Mendota Priority Watershed Project, 1997. This plan identifies the sources of nonpoint pollution, by load and percent contribution, in the Lake Mendota watershed from both agricultural and non-agricultural sources. It further identifies objectives that will achieve a reduction goal in the lake.

EA for promulgation of the 1994, NR 216 rule. This document summarizes the impact of the Phase I Storm Water Regulations as proposed by EPA. This includes permitting of municipalities over 100,000 population, industrial facilities and construction sites over 5 acres.

EA for the AWAC Prohibitions, 1995. This document addresses the impact of imposing the four prohibitions on agricultural facilities located in Water Quality Management Areas (close to lakes and streams).

Fixen, P.E. 1998. in Sharpley, A.N. Daniel, T, Lemunyon, J., Stevens, R. and Parry R. Agricultural Phosphorus and Eutrophication. Agricultural Research Service. July, 1999.

Lohr, Terry. Nov. 13, 2000. Primary Sources of Runoff Polution in Wisconsin. Unpublished study. Wisconsin Department of Natural Resources, WT/2.

Masterson, John and Bannerman, R. Impacts of Stormwater Runoff on Urban Streams in Milwaukee County, Wisconsin. Paper presented at National Symposium on Water Quality: American Water Resources Assn. 1994.

Owens, David W., Jopke, Peter, Hall, David W., Balousek, Jeremy and Roa, Aicardo. August 2000. U.S. Geological Service and Dane County Land Conservation Dept. Soil Erosion from Two Small Construction Sites, Dane County, Wisconsin. USGS Fact Sheet FS-109-00.

Schueler, Tom. Watershed Protection Techniques. This periodic bulletin on urban watershed restoration and protection tools addresses the latest in research on urban sources of pollution and techniques for correction. Past bulletins have addressed the issue of how much development in a watershed affects the ability of a stream to meet its designated uses.

Schueler, T.R. 1994. "The Importance of Imperviousness." Watershed Protection Techniques. 1(3).

U.S. EPA. 1992. Environmental Impacts of Storm Water Discharges: A National Profile. EPA 841-R-92-001. Office of Water. Washington, DC. Documents the effects of storm water on the nation's waterbodies.

U.S. EPA. 1997. Urbanization and Streams: Studies of Hydrologic Impacts. EPA 841-R-97-009. Office of Water. Washington, DC.

U.S. Environmental Protection Agency. 1999. National Pollution Discharge Elimination System—Storm Water Phase II. Federal Register, Vol. 64, No. 235. Dec. 8, 1999.
The preamble of this rule documents research and monitoring results on the impacts of urban nonpoint sources on water quality.

U.S. Environmental Protection Agency. June 2000. National Water Quality Inventory: 1998 Report to Congress. EPA 841-R-00-001.

Wang, L., Lyons, J., Kanehl, P. and Gatti R. "Influences of Watershed Land Use on Habitat Quality and Biotic Integrity in Wisconsin Streams." Fisheries. vol. 22, no. 6, June, 1997.

Wang, L., Lyons, John, Kanehl, Paul, Marshall, David, and Sorge, Michael. July, 2000. Responses of Stream Habitat, Macroinvertebrate, and Fish to Watershed BMPs: Lessons from Wisconsin. Wisconsin Dept. of Natural Resources. Madison, Wisconsin.

WDNR and WDATCP, Nonpoint Source Redesign Initiative Report. Dec. 1999.

C. Major provisions and new requirements

The major provisions of the proposal are the agricultural and non-agricultural performance standards including the manure management prohibitions in proposed ch. NR 151. A brief description of the performance standards and prohibitions follows.

Agricultural Performance Standards and Prohibitions

- Sheet, rill and wind erosion: All cropped fields shall meet the tolerable (T) soil erosion rate established for that soil.
- Manure storage facilities: All new, substantially altered or abandoned manure storage facilities shall be constructed, maintained or abandoned in accordance with accepted standards. Failing and leaking existing facilities posing an imminent threat to public health or fish and aquatic life or violate groundwater standards shall be upgraded or replaced.
- Clean water diversions: Runoff from agricultural buildings and fields shall be diverted away from contacting feedlots, manure storage areas and barnyards located within water quality management areas (300 feet from a stream or 1,000 feet from a lake or areas susceptible to groundwater contamination).
- Nutrient management: Agricultural operations applying nutrients to agricultural fields shall do so according to a nutrient management plan.
- Manure management prohibitions:
  - no overflow of manure storage facilities
  - no unconfined manure piles in a water quality management area
  - no direct runoff from feedlots or stored manure into state waters
  - no unlimited livestock access to waters of the state in locations where high concentrations of animals prevent the maintenance of adequate or self-sustaining sod cover

Non-Agricultural Performance Standards

New development and redevelopment

- Construction on sites of five acres or more (one acre or more after March 10, 2003) shall reduce sediment to the maximum extent practicable in accordance with an erosion control plan.
- Storm water management plans are required to be implemented following construction on sites of five acres or more (one acre or more after March 10, 2003). The plans shall include best management practices to:
  - reduce total suspended solids
  - reduce peak runoff discharge rates
  - infiltrate initial runoff except where groundwater contamination could occur
  - maintain a permanent vegetative buffer area around lakes, rivers, streams and wetlands in the construction area
  - control petroleum products in runoff from fueling and vehicle maintenance areas

Developed Urban Areas

- Municipalities with average densities of 1,000 people per square mile or greater and contiguous commercial and industrial areas shall implement the following requirements by March 10, 2008:
  1. public education promoting proper yard and garden care to minimize polluted runoff
  2. appropriate leaf management and collection and proper disposal of grass clippings
  3. nutrient application schedules when fertilizers are applied to its properties over 5 acres (this also applies to privately-owned impervious areas of this size).

4. detection and elimination of illicit discharges to storm sewers

- Municipalities that are regulated under the NR 216 permit program will be required to implement the performance standards in two stages.
  Stage 1 to be implemented by March 10, 2008, shall include:
  - requirements 1-4 listed above
  - 20 % reduction in total suspended solids (usually achieved through street sweeping, annual catch basin cleaning and de-icer management)

  Stage 2 to be implemented by March 10, 2013, shall include:
  - 40 % reduction in total suspended solids (through high efficiency street sweeping or structural BMP retrofit practices)

Transportation Performance Standards

Transportation facilities (roads and associated structures) are subject to the non-agricultural performance standards listed above. Some specific modifications are made in recognition of the unique character of transportation facilities:

- exemption from post-construction performance standards for highway resurfacing, reconditioning or minor re-construction,
- option to use a water quality designed swale to meet the post-construction performance standard,
- exemption from the infiltration performance standard for highways and other heavily traveled roads
- requirement for a total suspended solids control of 20 percent by 2008 and 40 percent control by 2013 for highways within municipalities permitted under subch. I of NR 216,
- requirement for education of DOT maintenance staff on prevention of runoff pollution.

Other key requirements are further identified in the Background Memo.

D. Exemptions provided by this proposal

There are exemptions to some of the performance standards in relation to site-specific conditions. Persons involved with construction activities on sites less than five acres in size are exempt from both the construction erosion control and the post-construction performance standards until 2003 when the EPA Phase II Storm Water Regulations take effect. At that time, sites between one and five acres will be subject to both the construction and post-construction performance standards. Exemptions to the post-construction performance standard include redevelopment sites with no increase in exposed parking lots or roads, sites with less than 10% connected impervious cover and certain transportation activities such as highway resurfacing, reconditioning or minor re-construction. The infiltration performance standard and the manure stacking prohibition would not be allowed on sites where there is a high probability that groundwater contamination will occur as a result. Municipalities with population densities less than 1,000 people per square mile are exempt from the developed urban area performance standards. These areas are mostly low-density residential areas. However, the department intends to make information and education programs available to these low-density areas. The developed urban area performance standards more appropriately target municipalities with higher population densities that have a greater risk of severe urban nonpoint source problems.

A general provision of both the statute and the code is that existing agricultural facilities and operations that would incur costs to meet the performance standards will not be required to do so unless cost sharing is offered. In addition, revisions to the 2001 hearing draft of NR151, subch. II include a requirement that smaller agricultural operations (less than 250 animal units) may expand up to 300 animal units and still be eligible for cost-sharing before compliance with the performance standards can be enforced. The effect of these exemptions is that nonpoint source pollution from these sources will continue unless funding is provided or controls are installed voluntarily. In addition, variance provisions have been included for

agricultural performance standards under certain conditions as long as comparable water quality protection is achieved.

IV. Affected Environment

A. Physical and biological environments affected by this proposal

The redesign rules will affect most of Wisconsin's water resources that include approximately 32,000 miles of perennial rivers and streams, many of the nearly 23,000 miles of intermittent rivers and streams, 15,057 inland lakes (about 944,000 acres), 1,017 miles of Great Lakes shoreline, and 5.3 million acres of wetlands. Urban and rural land use activities contribute runoff pollutants that can degrade these water resources. According to EPA's most recent (1998) assessment of the state's water resources, 44 percent of the river miles and 61 percent of the lake acreage do not fully support aquatic life uses and another 25 percent of river miles and 3 percent of lake acreage are threatened. Polluted runoff is one of the major sources of the problems.

In another measure of water quality degradation, waters not meeting water quality standards are included on the 303(d) list of impaired waters. Wisconsin reports that 1,404 miles, or 52 % of the total impaired stream miles, are impaired primarily by nonpoint sources or a blend of nonpoint and point sources.

Some of the performance standards are focused on controls within Water Quality Management Areas (1,000 feet from a lake or 300 feet from a stream), while others are statewide. The performance standards and prohibitions will also protect the quality of the waters that are not impaired, including those that have been designated as Outstanding or Exceptional Resource Waters.

B. Units of government, industries, organizations and other parties affected by the proposal

The agricultural performance standards and prohibitions will primarily impact crop producers and livestock operators. The non-agricultural performance standards will impact developers, contractors and other persons involved in construction activities, golf course owners or operators and other turf managers, and municipalities with densities of 1,000 people/sq. mile or more. Industrial and commercial entities will be affected if construction activities involving 5 acres or more, (1 acre or more after 2003) take place on their facilities, including those commercial and residential construction projects regulated by the department of commerce. Transportation projects such as road building managed by the department of transportation and local units of government will be subject to the transportation performance standards.

A final regulatory flexibility analysis was developed for these rules to address the affected parties, if they are defined as small businesses. The impacts are much the same for both small and large businesses.

V. Environmental Consequences

A. Anticipated impacts on the physical and biological environment

The environmental impact of the performance standards and their implementation through existing regulatory programs, as well as for facilities not covered by existing regulations, will be positive. The expectation is that compliance with these standards will result in improved water quality although these impacts may not be seen for some time. The standards will set in motion a process for recovery of Wisconsin's water resources while preventing new sources from further degrading lakes, rivers and streams. Direct impacts will be less sediment, nutrients (phosphorus and nitrogen) and toxic contaminants washing into water resources. Longer, indirect effects will be improvements to habitat, increased populations of desirable fish species, increased water clarity, more stable streambanks and shorelines and a more balanced aquatic ecosystem.

B. Anticipated direct and indirect economic impacts

There will be direct economic impacts as a result of the performance standards on the affected parties. Positive economic impacts from cleaner water can be expected in terms of increased recreational and tourism opportunities, improved ecosystem health and enhanced aesthetics. It will cost money on the part of state, local governments, landowners and developers to implement the performance standards. Some of these costs may be offset, for example, by cost savings from purchasing less commercial fertilizers. Since the agricultural performance standards and prohibitions are tied to cost sharing, funding will need to be committed if existing facilities are to meet the standards. Existing agricultural facilities will not be required to meet the performance standards without 70% cost sharing (up to 90% in hardship cases), but they may be required to pay 30% (10% in hardship cases) of the cost. New agricultural facilities (after the effective date of the rules) will be required to meet the performance standards and prohibitions without cost sharing. Some of the standards can be met through management changes or relatively inexpensive practices, but some will require construction of structural practices. Concentrated Animal Feeding Operations (CAFOs) already address many of the performance standards through WPDES permits and should not experience significant economic impacts from these rules. A fiscal estimate for each of the rules was written for the impacts on state agencies and local units of government and is included in the attachments. The department has also developed an estimated cost to individuals such as landowners and developers to meet the non-agricultural performance standards.

C. Impacts on social or cultural environments, the regional availability of energy or other features not previously addressed

The impacts on the social and cultural environments are expected to be positive. Achieving the goal of improved water quality for rivers, streams and lakes will be an asset to the communities surrounding these water resources providing increased recreational opportunities, improved esthetics, gathering places for community events and celebrations or quiet places for reflection.

The department has also considered environmental justice in the analysis of these rules. The department defines environmental justice as a continuous decision-making process that ensures participation by minority and low income populations in affected areas, along with the majority populations, in order to ensure that as an outcome all people receive the benefits of clean, healthy, and sustainable environments regardless of race, national origin, or income. As the rules are implemented, there is an expectation that environmental justice will be considered, both in terms of providing opportunities for participation by low-income and minority populations and of the impacts on these groups. Such impacts might be reducing the health risk of inner city children who play in a polluted neighborhood river or having healthier fisheries available to low-income populations that rely on fish for food. Opportunities for participation by low-income and minority populations might involve outreach beyond the traditional media outlets to places where groups might congregate, such as churches or community centers, or through neighborhood or minority news outlets.

The department has included considerations of environmental justice as part of the scoring criteria for the Targeted Runoff Management Projects described in ch. NR 153 and the Urban Nonpoint Source Water Pollution Abatement and Storm Water Management Grant Program described in ch. NR 155. The department also established provisions in ch. NR 154 to increase cost-share rates for people who must install agricultural best management practices and are experiencing economic hardship.

The performance standards will require the construction of practices in some cases. The materials for these practices will have used energy in their development. However, in general, practices to correct nonpoint sources of pollution operate by gravity flow. Under this condition, no additional energy requirements are needed during operation. Maintenance of these practices may use energy, such as the use of tractors and trucks for mowing, hauling or earth moving work. Urban practices are often located in

or near local parks, which may be in neighborhoods. The decision to locate a practice in an area is based on hydrologic flow conditions rather than the ethnic or cultural makeup of the area.

VI. Alternatives and Their Impacts

Impacts of no action and of alternatives

No Action – The no action alternative would be a failure to enact the primary provisions of 1997 Wisconsin Act 27 and 1999 Wisconsin Act 9. This alternative would result in maintenance of the department's current programs to control both agricultural and non-agricultural nonpoint source pollution. For agriculture this would consist of continuing the existing Agricultural Runoff Management Program and the existing Priority Watershed and Priority Lake Program until it is phased out. The Agricultural Runoff Management Program is a regulatory program with a permitting component for operations with greater than 1,000 animal units. Smaller operations that are found to be discharging pollutants to state waters can be issued a Notice of Discharge (NOD). If the livestock facility is unable to eliminate the discharge, a permit can be issued. The Priority Watershed and Priority Lake Program is a systematic, primarily voluntary program for selected watersheds around the state. Selection of the watersheds was based on water quality concerns. For non-agricultural facilities, there are voluntary controls on urban nonpoint sources in the Priority Watershed and Priority Lake Program and regulatory requirements on construction sites and municipalities identified under ch. NR 216.

The legislature when it enacted Act 27 made it clear that it did not believe the current nonpoint source control programs were meeting their water quality goals and directed the department to develop performance standards to achieve water quality standards. The voluntary program and the limited regulatory program were still allowing large amounts of rural and urban nonpoint sources of pollution to reach lakes, rivers and streams. Performance standards would be applied statewide to more agricultural operations and municipalities and would be regulatory. With broader coverage and greater expectation for control, the performance standards would result in more water resources achieving water quality standards. Under the current program, many resources are not meeting water quality standards.

Selection of Different Performance Standards – The performance standards in these rules were developed by work groups of staff from affected agencies and other stakeholders, along with an advisory committee, as well as public input through the rule-making process, and are intended to address the major sources of polluted runoff from both agricultural and non-agricultural activities. The agricultural performance standards address pollution caused by soil erosion, improper management of fertilizer on croplands, and improper management of manure from barnyards, feedlots and through land spreading. The non-agricultural performance standards address soil erosion from construction sites, and post-construction contaminated storm water runoff from development, peak flow and storm water volume control and buffers.

The department believes that the performance standards selected represent the most integrated standards needed to address the major sources of polluted runoff in rural and urban areas in a cost-effective manner. Selection of different performance standards could have either a positive or a negative effect on the environment, depending on which performance standard is selected. Performance standards addressing temperature, base flow and chlorides were considered in the initial stages of performance standard development, but the department concluded that either they didn't have enough data or that adequate design tools did not exist to substantiate performance standards for those parameters at this time. More stringent cropland measures were also considered, but received much opposition and was unlikely to be implemented due to direct costs and costs of taking land out of production. More stringent performance standards could be imposed on developed urban areas but would involve extensive retrofitting that would impose prohibitive costs on cities.

The standards identified in the rules were modified and reworked based on comments from public and private citizens and representatives of organizations, including producers, municipal officials, environmental and conservation groups. The resulting performance standards and prohibitions reflect, as closely as possible, a consensus position and modification would likely result in other interest groups being adversely affected. The performance standards and prohibitions cannot satisfy all people or groups. The department has used extensive public outreach to develop standards based on public input.

Rely Solely on State Implementation of Performance Standards and Prohibitions with No Option for Local Involvement – Performance standards and prohibitions are intended to be implemented and enforced through local ordinances with the state as back-up authority. The alternative of implementing and enforcing the performance standards and prohibitions solely at the state level might result in a more consistent approach, but it is unlikely that enough staff resources would be made available for adequate implementation, monitoring and enforcement and this alternative would ultimately be more detrimental to the environment. The department drafted, as part of this rules package, two model ordinances for urban development that will afford some consistency to local governments that wish to adopt them. Local implementation is expected to result in higher participation rates. The implementation of more best management practices will in turn result in more environmental control of pollution to waterways. Also, administration at the local, rather than state level, is closer to the source of the problem and more acceptable from the standpoint of the entity that needs to comply. While the department cannot require local governments to enact ordinances, it proposes to provide grant funding preference to municipalities who enact and enforce ordinances.

VII. EIS Recommendation

The attached analysis of Proposed Revisions and/or Creation of chapters NR 120, 151, 152, 153, 154, 155, 216 and 243 Wis. Adm. Code pertaining to the redesign of the nonpoint program is of sufficient scope and detail to conclude that this is not a major state action which would significantly affect the quality of the human environment. An environmental impact statement is not required prior to final action by the Department to adopt this rule. This determination was made considering the attached analysis and the following factors:

1. Environmental Effects and Their Significance

Short-term and long-term environmental effects of the proposed rules

The Federal Clean Water Act requires all states to ensure that the nation's waters meet their fishable/swimmable designations. Wisconsin has established water quality standards in Ch. NR 102, Wis. Adm. Code, to implement federal requirements. The goal is for all waters to be clean enough for swimming and to support diverse fish and other aquatic life populations. According to the EPA's most recent assessment of the state's water resources, 44 percent of the river miles and 61 percent of the lake acreage do not fully support aquatic life uses and another 25 percent of river miles and 3 percent of lake acreage are threatened (EPA, 2000). Polluted runoff or nonpoint source pollution is one of the major sources of the problems. Waters not meeting their designated uses are considered to be impaired. Wisconsin reports that 1,404 miles of streams are impaired primarily by nonpoint sources or a blend of nonpoint and point sources.

Polluted runoff results when storm water or snow melt washes across the land and carries contaminants such as sediment, suspended solids, nutrients, heavy metals, pathogens, oxygen-demanding substances

(organic material) and other toxic pollutants to surface waters or groundwater. This polluted runoff can destroy fish habitat, kill fish, reduce drinking water quality, clog harbors and streams with sediment and reduce recreational use of lakes and streams. Nutrients, such as phosphorus and nitrogen, while essential for plant and animal growth, can have harmful effects on waterbodies when they are present in excess of crop needs and are transported to waterbodies via storm water or snow melt. Excess nitrogen and phosphorus from the runoff of manure and commercial fertilizer attached to soils and sediment can result in heavy plant and algae growth, including blue-green algae that may pose serious health threats to animals and humans, fish kills, and impair opportunities for boating, swimming and fishing. When the plants and algae die, decomposition of this excess organic matter significantly depletes oxygen in the water, which degrades the habitat and limits the fish and invertebrate species that can survive. Sediment covers spawning grounds and negatively affects visibility and the opportunity for fish to find food. Phosphorus is a particular problem in Wisconsin because 77 percent of the state's soils have been tested and are shown to be high or excessively high in phosphorus concentrations (Fixen, 1998).

An assessment of data obtained from 15 of Wisconsin's most recently completed priority watershed project plans indicates that sediment and nutrients from agricultural sources are the leading runoff pollutants in the state. Croplands contribute 76 percent of the sediment load and 65 percent of the phosphorus loads in these watersheds. Barnyards and manure spreading contributed 29 percent of the phosphorus load (Lohr, 2000).

Urban sources of polluted runoff are also a cause for concern. Urban development alters the natural infiltration capability of land through the creation of impervious surfaces such as driveways, sidewalks, streets and parking lots. The storm water and snow-melt that run off these impervious areas are higher in velocity, volume, pollutants and temperature than flows in areas which have more natural vegetation and soil to filter and disperse the runoff (EPA, 1997). Research on urban streams in Milwaukee County showed high concentrations of suspended solids, bacteria, heavy metals, oil and grease and polyaromatic hydrocarbons (PAHs) in stormwater discharges and stream water that exceeded water quality criteria (Masterson and Bannerman, 1994).

Urban nonpoint sources are not restricted to highly urbanized areas. In a study of 134 sites on 103 Wisconsin streams, researchers found that levels of urbanization as low as 10 to 20 percent were associated with severe impacts on the biotic integrity of the streams (Wang, et. al., 1997). Research has also shown that the amount of rain running off a 1-acre parking lot is close to 16 times that produced by an acre of undeveloped meadow (Schueler, 1994). Sediment loads from construction sites have been shown to be 10 times larger than typical loads from rural and urban land uses in Wisconsin (Owens, et. al., 2000)

Contamination of groundwater is an important human and animal health concern. Several substances that can affect groundwater quality include turbidity (dissolved solids), chlorides, metals, and nitrate. Nitrate can come from a variety of sources, including manure and commercial fertilizer. The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) conducted a statistical sampling of selected private water supply wells in Wisconsin. Results indicate 10% of these wells exceed the state groundwater enforcement standard of 10 parts per million for nitrate.

The following proposed administrative rules are analyzed in terms of agricultural and non-agricultural impacts on the environment:

Priority Watershed and Priority Lake Program (NR 120)
Runoff Management (Performance Standards and Prohibitions) (NR 151)
Model Ordinances for Construction Site Erosion Control and Storm Water Management (NR 152)
Runoff Management Grant Program (NR 153)

Best Management Practices and Cost Share Conditions (NR 154)
Urban Nonpoint Source Water Pollution Abatement and Storm Water Management Grant Program (NR 155)
Storm Water Discharge Permits (NR 216)
Animal Feeding Operations (NR 243)

Most of these rules function as support documents or implementing mechanisms for the proposed ch. NR 151 that identifies the performance standards and prohibitions. Since the impact and controversy is related primarily to the performance standards, the EA will focus on those standards. Code actions for chs. NR 120, NR 152, NR 153, NR 154 and NR 155 are addressed in this EA by association with the performance standards. The substantive requirements associated with ch. NR 120, the Priority Watershed and Priority Lake Program, will not change. Ch. NR 152 contains model ordinances for construction erosion control and stormwater management activities for municipalities. The programs outlined by ch. NR 153 and NR 155 are grant programs that provide funding for projects designed to improve water quality. Ch. NR 154 is a list of best management practices and cost share conditions to support the grant programs and compliance with the performance standards and prohibitions. Changes to ch. NR 216 that incorporate the non-agricultural performance standards into the storm water permit program are part of this rules package. Ch. NR 243 is repealed and recreated to incorporate the performance standards and manure management prohibitions into the animal feeding operation permit program. Each of these codes will support the performance standards and prohibitions and provide a beneficial impact through funding and clarification of needed practices. Model ordinances and grant programs as well as identification of best management practices that will help meet the performance standards and prohibitions will reduce the negative impact to municipalities and landowners of having to meet new requirements. If affected stakeholders have the tools they need to meet the performance standards and prohibitions, then the environmental impact of the standards will more effectively meet the goal of achieving water quality standards.

What follows are separate discussions of the impacts by agricultural and non-agricultural nonpoint sources of pollution.

Agricultural Proposal
The agricultural portion of the EA is dedicated to the code actions that impact agricultural operations and the environment and are contained in chs. NR 151, Subchapter II, and NR 243, Wis. Adm. Code.

The short-term environmental effects are expected to be positive. The performance standards and prohibitions outline how crop and livestock producers, regardless of operation size, can operate in an environmentally acceptable manner and minimize the impacts of their operations on water resources. The manure management prohibitions identify four unacceptable agricultural activities that the prohibitions are designed to correct and which livestock producers can use to evaluate their operations. Producers should be able to determine, in most cases, if they need to change their operation to be in compliance. These producers will be working with counties to eliminate discharges to waters of the state. Effects will be seen in localized or site-specific benefits to water quality. Any reduction in the discharge of sediment to surface water and manure to surface or groundwater will be beneficial. Research has shown that installation of upland and riparian best management practices can significantly improve overall stream habitat quality, bank stability, in-stream cover for fish, and increased fish populations (Wang, et. al., 2000).

The long term environmental effects of implementing the statewide performance standards and prohibitions are also expected to be positive. With installation of proven practices for reducing erosion and runoff from agricultural fields, managing manure and controlling runoff and discharges, there will be

a reduction in the pollution loading to state waters from crop production activities and livestock operations.

Adequate data are not available to fully estimate the results of implementing the statewide performance standards and prohibitions. Intuitively, the application of best management practices to livestock and crop producers will further reduce the amount of pollutants discharged. An example is the prohibition relating to eliminating unconfined stacking of manure in Water Quality Management Areas (WQMAs). A livestock producer located near surface water that adopts this practice can be expected to reduce runoff from manure storage activities, improving the water quality of the adjacent waterbody.

The implementation of the performance standards and prohibitions will initially focus on areas identified as the most environmentally sensitive locations (e.g., WQMAs, because of the proximity to rivers, streams, and groundwater, impaired waters and outstanding and exceptional resource waters). Over time, a strongly reinforced set of acceptable activities and behaviors for manure management and runoff control from agricultural fields will evolve and will further define expectations for individual producers. As these activities become accepted in the agricultural community, water quality problems associated with improper management of cropped areas and manure will decrease over time and water quality will improve. If these performance standards and prohibitions do not result in an improvement in water quality in local areas, the department has the ability to identify targeted performance standards that are water resource specific. Education efforts at a local and state level will increase public knowledge about the detrimental effects of improper management of livestock and crop production activities.

Non-Agricultural Proposal

The codes and regulations related to non-agricultural sources of nonpoint source pollution are contained in chs. NR 151, subchs. III and IV; NR 152; NR 153; NR 154; NR 154; and NR 216, Wis. Adm. Code. This portion of the EA will discuss the environmental impacts of these rules.

The impact of these standards will be positive to the environment, both short-term and long-term. Studies have identified nonpoint sources of pollution as contributing measurable levels of sediment, nutrients and toxic pollutants to waterbodies in the form of runoff. Applying performance standards to urban land uses will result in a reduction of pollutants being discharged to lakes and streams. This, in turn, will enhance recreational uses such as fishing, boating, swimming; improve esthetics which will make lakes and streams more desirable places to live and vacation near; provide habitat and water quality benefits for fish and other aquatic species; address health concerns such as bacterial contamination and beach closings; and provide a wide variety of other benefits for navigation, water storage, flood control, and groundwater (and drinking water) protection.

In 1994, DNR promulgated storm water regulations under ch. NR 216 in conformance with the 1990 EPA Phase I Storm Water rule. An environmental assessment was written to reflect the impacts of those rules. On December 8, 1999, EPA published the Phase II rule for storm water and as part of that document they have provided an environmental assessment for the changes. Rather than repeat the environmental effects of non-agricultural nonpoint sources of pollution identified in those EAs, the reader should consult the environmental assessments done for those actions. The EA for ch. NR 216 is available from the department's Runoff Management Section and the Phase II EA is available on EPA's website: www.epa.gov/ow. The EA for the 1999 EPA Phase II Storm Water rule and the EA for ch. NR 216 codifying the EPA Phase I Storm Water regulations reflect the known research on storm water and its impact on the water resources. Both indicate that the promulgation of rules to control these sources will result in a net improvement in the water quality of streams and lakes.

The non-agricultural performance standards identified in ch. NR 151 are intended, where possible, to parallel the EPA Phase II Storm Water rules. Phase II will lower the applicability for permitting to 1-acre

construction sites. For Wisconsin, the threshold is expected to drop to 1 acre of disturbed area in the year 2003. With promulgation of ch. NR 151, construction sites over 5 acres (and in 2003, 1 acre sites) will be expected to reduce sediment to the maximum extent practicable with a goal of 80% on an average, annual basis. This goal is more specific than the performance standards of the current ch. NR 216 regulations for construction sites. Providing a goal for reduction will result in a reduced sediment load reaching Wisconsin's streams and lakes and an improvement in water quality. Implementation of this standard will have a positive long and short-term impact on the receiving waters.

New development will have long term controls placed on it such that the impacts of urbanization can be minimized and cost-effectively controlled. Imposing standards at this point in the development minimizes the impact on local governments and reduces future degradation of the water resources. Performance standards placed on post-development projects includes a total suspended solids reduction with a goal of 80% on an average, annual basis, an infiltration performance standard, a peak flow control standard, required vegetated buffers in riparian areas and controls on fueling and vehicle maintenance areas. If after construction no pollutant reduction goals were placed on a development, the area water resources would continue to degrade. While controls on construction results in a short-term positive impact on the environment, controls on post-development provides a long term environmental benefit.

Performance standards have also been set for existing developed areas. A staged approach of public information and education of residents combined with best management practices that increase in intensity over several years are expected to result in some short-term positive effect, but will provide a long-term benefit to the water resources as more municipalities recognize and reduce the existing pollutant contribution of their urban areas.

The DNR is providing model storm water and construction site ordinances to facilitate consistent regulation of pollutant sources at the local level. The state has also offered funding for projects at the local level, both in planning and construction, to help implement and meet the expectations of the performance standards. Funding and model ordinances will have a positive impact on a municipality's ability to identify problems and to support and enforce the performance standards.

Implementation of the performance standards (primarily through ch. NR 216) will result in an improvement to the state's water resources. While attaining the performance standards alone cannot wholly reverse the impacts of development on water resources, they can minimize the impact and move the state forward toward achieving fishable and swimmable goals for water resources impacted by nonpoint source pollution. Very few resources are impacted only by nonpoint sources and for many, sediment deposition from nonpoint sources will take many years to move through the water system before a stream or lake appears to improve. Assessing the effectiveness of the performance standards in achieving water quality standards may take some time, and will require defining, monitoring and tracking parameters that determine success.

While these performance standards are not directly related to threatened and endangered or sensitive ecological areas, they are anticipated to help the water resources, in which these species live, to achieve water quality standards. Even incremental improvements in water quality will benefit the species located in and around that body of water, including humans. If the performance standards are not sufficient for a specific body of water to achieve its goals, the rules give the DNR the ability to develop, through rule making, targeted performance standards (standards specific to the needs of that water resource).

The infiltration standard requires new development to set aside an area for infiltration of storm water. This is needed to reduce the volume of runoff and its associated pollutants and to return a portion of the storm water to the ground to recharge ground water levels and base flow levels in nearby streams. This performance standard is also important where cold water streams may be adversely impacted because of

increased temperature. If more of the runoff is returned to the ground, runoff to streams will be reduced as will the risk of increasing the temperature in the stream. However, concerns were expressed that this performance standard may reduce the profitability of development and contribute to urban sprawl because of the amount of land that may need to be set aside to meet this standard. The department modified the requirements so that less land area would need to be set aside to meet the standard. Although finding enough area to achieve the infiltration performance standard could result in larger lots and continued movement away from congested development areas, it is expected that a developer will organize the site differently, and to protect areas with good infiltration rates from compaction due to construction. In certain conditions where infiltration is not desirable, the standard will not be imposed.

Another concern of the infiltration performance standard is that technical standards to support this performance standard are not yet written. A municipality, in good faith, could attempt to meet the infiltration requirement, but not properly locate the infiltration device and ultimately cause contamination of the groundwater. The infiltration technical standard is under development and the department anticipates that the technical standard will be finalized before municipalities will be required to implement this performance standard (two years after final rule approval). The technical standard, when developed, will identify where the infiltration standard should and should not be applied and under what conditions pre-treatment may be required. The performance standard has identified this to some degree, and additional guidance and exclusions or exemptions have been added to this performance standard to further protect groundwater.

The rules are intended, to the extent technically and economically feasible, to minimize the level of pollutants infiltrating to groundwater and to maintain compliance with the preventive action limits at the point of standards application in accordance with ch. NR 140, Wis. Adm. Code. However, it is possible that some constituents in storm water may exceed the PAL on occasion. In particular, there is no known BMP that will effectively remove chloride, and its concentration and mobility in soil is high resulting in a high risk to the groundwater. The rules have been revised to exempt highways and high traffic roads from having to infiltrate to minimize the impact of runoff contaminated with road salt Other constituents, such as bacteria and viruses, though high in concentration, are not as mobile and will be trapped by the particulates in the required soil depth. Pollutants attached to sediment, such as heavy metals will also be attenuated in the soil. Soluble contaminants, such as nitrate, are low in concentration and will not likely exceed the PAL. Certain land uses do not generate pollutant concentrations in runoff that would risk PAL exceedances, such as residential and parks. Other land uses and/or areas within those uses, such as parking lots in commercial or industrial areas, have a potential for high concentrations of contaminants that would exceed the PAL. These areas are required to pre-treat storm water so that they comply with the PAL, and ultimately with the enforcement standard. If this is not technically feasible, then these areas should not infiltrate runoff. At any time a device can be disconnected from the groundwater and redirected to surface water, in light of new information. These rules will not result in an irreversible action.

These rules are performance standards that have been written to allow flexibility in their implementation. This is expected to result in the development of new tools and guidance on how best to meet the standards. Many of the rules will require the development of technical standards to support the performance standards. The technical standards may further identify areas, where certain performance standards should not apply. These exclusions, as in the case of a technical standard for infiltration, would deter the infiltration of “dirtier” runoff without pretreatment, and exclude areas for infiltration due to soils, depth to bedrock, etc. All of these exclusions to implementation of the performance standard will be in the interest of protecting groundwater over reducing runoff pollution or increasing base flow in the stream. This is a trade off, and the department has concluded that it is better to protect groundwater. As a result, some areas of a watershed may not have increased infiltration.

2. Significance of Cumulative Effects.

Cumulative effects on the environment

Agricultural Effects
Currently, department regulatory oversight of crop and livestock producers is limited. The department's primary regulatory authority addresses impacts from concentrated animal feeding operations, or CAFOs, with 1,000 animal units or more. The proposed changes to ch. NR 243 regarding CAFOs do not represent a significant change in regulatory activities for these types of operations. For CAFOs, the changes to ch. NR 243 are primarily clarifications of existing policies that will improve administration of the program and provide operations with better information on what is expected as part of the WPDES permitting process. Beneficial environmental effects associated with more efficient and consistent administration of the WPDES permitting program are expected.

For crop producers and smaller scale animal feeding operations (those with less than 1,000 animal units) the creation of statewide performance standards and prohibitions in NR 151 will have a beneficial environmental impact. Statewide standards and prohibitions will help to eliminate environmentally damaging agricultural practices by ensuring proper management of manure and cropland. The potential for the performance standards and prohibitions to improve water quality can be qualitatively understood, but will be difficult to quantify. The effects of uncontrolled discharges of manure and runoff from cropland to the waters of the state has had a negative cumulative effect as pollutants build up in streams which negatively impacts plants and animal life. Reversing this process will result in localized improvements to aquatic ecosystems. The cumulative effects of the localized improvements, if they occur close enough to each other, will result in a larger overall improvement to the resource. The cumulative impact of all programs which address water quality issues, such as the Priority Watershed and Priority Lake Program, the animal feeding operations program, wetlands restoration and the WPDES permit program will be positive and comprehensive.

Although it is expected that these standards will be primarily implemented at the local level, chs. NR 151 and NR 243 contain state implementation and enforcement procedures. This provides an implementation and enforcement framework which may be assigned to local municipalities. Details will be determined through guidance documents and memorandums of agreement with assigned local units of government. This will result in beneficial impacts by helping to ensure consistent statewide implementation. Given the large number of agricultural operations in Wisconsin, the effectiveness of the program will be contingent on the availability of funds, since cost-sharing is required for compliance with performance standards and prohibitions for existing facilities and practices.

Nonagricultural Effects
Again, the work referenced by EPA in their environmental assessment for the Phase II Storm Water rules identifies the cumulative impacts from urbanization on water resources. Research has shown that once the land use draining to a stream has greater than 10% connected imperviousness, the stream begins to deteriorate (Schueler, 1994). This clearly has a cumulative impact as suburbs develop or rural communities increase in population. The performance standards are intended to control the pollutants from development and to reverse some of the cumulative negative impacts. Development will continue to occur, but will not have as severe an effect on our waters as they do now in the absence of performance standards.

Construction sites deliver high sediment loads, out of proportion to their land area. In the Lake Mendota Priority Watershed, construction sites contributed 23% of the sediment load while accounting for only 0.3% of the land area on an average annual basis (Betz, 1997). The cumulative impacts of the

sedimentation from construction sites destroy habitat by covering the stream bottom. Pollutants attached to the sediment may bio-accumulate in aquatic species and will ultimately enter the food chain. It may take a long time to reverse the effects of sedimentation, but reducing the additional load will allow the stream to return to a more natural state over time. Urbanization also affects the base flow in a stream and the infiltration performance standard is intended to return some of the storm water, that would otherwise run off, back into the ground. This will also reduce the volume of runoff, which in urban streams is flashy and erosive. The peak flow rate performance standard will control these conditions, reducing erosion.

The performance standards are intended to minimize the cumulative environmental impacts of urbanization. This may not completely restore water quality in urban streams, since there are many other factors involved (e.g., concrete stream channels, the elimination of a floodplain that can cause a stream to have limited biodiversity). The cumulative effect of the performance standards will be improved water quality or, at a minimum, a reduction in the rate of degradation.

3. Significance of Risk

a. Significance of unknowns

Agricultural Risks
For crop producers and small-scale animal feeding operations, one possible concern with the implementation of statewide performance standards and prohibitions stems from the use of a prescribed set of performance standards or prohibitions instead of using site specific water quality assessments to determine a wasteload allocation for each location. It is understood that the statewide approach will reduce the pollutant load at each location, but whether that reduction is sufficient to meet water quality standards is unclear. However, since there is the ability for local and state agencies to develop targeted performance standards in ch. NR 151, this concern can be addressed.

Availability of financial assistance to counties and producers will also be necessary for the performance standards and prohibitions to be successful. Compliance with the performance standards and prohibitions is contingent on the availability of cost sharing for existing facilities. The full environmental benefits for agricultural operations associated with ch. NR 151 will not be achieved if funding for cost sharing is not adequate. Other areas such as monitoring program success, information and education efforts, and local enforcement efforts will also impact the degree to which beneficial environmental impacts will be realized. Without further development of these components, there is a risk that the environmental goals will not be reached.

Additional concerns may stem from the potential for inconsistent implementation and administration at the local level. Some counties may not seek designation as the lead agency in implementing the performance standards and prohibitions. It is premature to predict the number of counties that will participate. In any event, the state's oversight authority is expected to minimize the effects of this variability.

In comparison to the current version of ch. NR 243, the proposed changes to ch. NR 243 for CAFOs do not create additional requirements or policies that would result in any additional uncertainty in predicting effects on the quality of the environment.

Nonagricultural Risks
The performance standards have identified goals for reduction of pollutants, which are designed to achieve water quality standards. Since the performance standards are applied statewide however, it is not

certain whether they will be sufficient to achieve water quality standards in all waterbodies. There are other sources of pollution, not controlled by these performance standards, which may also cause a stream to fall short of its fishable and swimmable designation. Given the uncertainty of achieving water quality standards, the rules have indicated that where water quality standards are not being met, the department may develop targeted performance standards. This allows the department an opportunity to assess the impact of the statewide standard and to focus additional efforts where there are waters or species that need protection through alternate standards. The state continues to monitor watersheds for improvement and to test specific practices for their effectiveness. This effort would need to be enhanced and broadened if we are to properly identify the impact of these rules.

b. Significance of reasonably anticipated operating problems

Agricultural
The environmental significance of operating problems associated with crop and livestock production may be severe. Excessive application of commercial fertilizer or manure on cropped land can result in groundwater impacts (high nitrates in well water) and runoff impairing surface waters (low dissolved oxygen levels, eutrophication, fish kills). For livestock operations, one of the most recognizable impacts on a local level is related to the failure of a manure storage structure. In the past, such failures have resulted in fish kills in streams, occasionally extending for several miles. Runoff from feedlots can also have similar effects if the feedlot is not properly designed or operated. These impacts usually can result from the improper design or maintenance (e.g., proximity to streams or lakes, having too many livestock in given areas, as well as not cleaning feedlots on a regular basis and allowing manure to discharge). Improper stacking and storage of the manure in areas too close to water resources may also adversely impact those resources.

The implementation of performance standards and prohibitions will decrease the risk of environmental impacts from operating failures by reducing the potential for excessive runoff of sediment and nutrients from cropland and the discharge of manure into water bodies, thereby reducing environmental impacts.

Where county administration of performance standards and prohibitions occurs, the local perspective to implementation will allow better awareness of the need to address sites with known potential for operating problems.

The changes to ch. NR 243 for CAFOs do not pose operating problems of environmental significance. In fact, the changes to ch. NR 243 and associated code clarifications are designed to help reduce the probability of such problems by facilitating department review and oversight of these types of operations.

Nonagricultural
In order to meet performance standards, municipalities or developers/contractors will be expected to put in place best management practices to control runoff. These practices require proper operation and regular maintenance. If anything should happen to such a facility (such as a detention pond berm collapsing), it is expected that a sudden discharge of pollutants would have a detrimental effect on the receiving waterbody. Included in ch. NR 151 is the process to develop technical standards. These technical standards, as they are developed to support the performance standards, will include requirements for safety, installation, operation and maintenance of best management practices with the intent to prevent failures and mitigate the impacts of any that do occur.

4. Significance of Precedent

Influence on future decisions

Agricultural
It is expected that counties, via ordinances, will implement the agricultural performance standards and prohibitions. Ch. NR 151 does not preclude counties from adopting ordinances that exceed statewide performance standards and prohibitions to address local concerns; however, counties will need to obtain approval from the department or the department of agriculture, trade and consumer protection for livestock operation ordinances that exceed ch. NR 151 standards.

The department is also able to adopt, by rule, targeted performance standards and prohibitions to address water quality problems that aren't adequately addressed by statewide performance standards and prohibitions.

The changes to ch. NR 243 for CAFOs will not influence future decisions that would affect the environment or conflict with other agencies' plans or policies. Some of the changes to ch. NR 243 specifically include federal standards that apply to CAFOs ed animal feeding operations. In certain permits, more stringent technical standards or best management practices may be required than currently available in the Natural Resources Conservation Service (NRCS) standards.

Nonagricultural
The rules identify performance standards that must be met statewide. They do not, however, prevent a municipality from developing an ordinance to regulate storm water discharges that are more stringent than these performance standards. The rules package includes a model ordinance for construction site erosion control and a model storm water management ordinance that reflect the performance standards. These models can be adopted as indicated or changed to fit the needs and specific situation of the municipality.

In addition, the performance standard for developed urban areas is a staged process that allows the municipality time to improve its housekeeping and public education programs, then to implement pollutant reduction efforts. The department will have time to assess how well a previous stage was implemented prior to a subsequent stage. If the statewide performance standards are determined to be inadequate to achieve water quality standards, local municipalities and the state can develop targeted performance standards.

5. Significance of Controversy over Environmental Effects

General
The performance standards were initially developed through a work group of affected agencies, with review by the OAC that included representatives from municipalities, municipal interest groups, environmental organizations and agricultural representatives. Controversial issues were addressed by representatives of these and other interests in work groups formed after the March 2000 public hearings.

Some controversy may center on the use of performance-based technology rather than measured water quality impairment. Some may argue that performance-based technology does not guarantee that water quality concerns will be addressed in all waterbodies. However, this can be addressed through the ability to create targeted performance standards and prohibitions.

There is often controversy when addressing what are real or perceived inequities between department regulation of agricultural and non-agricultural operations. Each side believes it faces more stringent regulations than the other and that each has fewer economic resources available to implement the performance standards and prohibitions.

Agricultural
For agricultural operations, costs to producers of implementing the performance standards and prohibitions are a concern. This is primarily a concern with existing operations that may need to retrofit facilities to meet the standards and prohibitions. Even though cost sharing is being provided at 70% of the cost of installation of a given practice (up to 90% in cases of economic hardship), the 30% cost to the agricultural operation could be considered a burden. However, it should be noted that some of the changes needed to meet the performance standards and prohibitions may be management changes only, with minimal associated cost.

There may also be controversy in the fact that the performance standards and prohibitions apply to all agricultural operations, regardless of size. Smaller operations may feel that they are at an economic disadvantage given that they may have fewer resources available to them than larger operations. On the other hand, larger operations do not want to be put at an economic disadvantage by excluding smaller operations since they are competing in the same economic arena. It should be noted that CAFOs are not eligible for cost sharing to implement standards required in their WPDES permits.

US EPA has been encouraging the use of WPDES permits for animal feeding operations between 300 and 1,000 animal units that meet the federal definition of a point source of pollution. The DNR is currently advancing a program for these operations that doesn't focus solely on the use of permits but also addresses the unique issues associated with animal agriculture in Wisconsin This program will include the performance standards and prohibitions in NR 151 and the notice of discharge (NOD) program outlined in NR 243. Changes have been made to NR 243 to address EPA's concerns regarding animal feeding operations with less than 1,000 animal units. NR 243 now recognizes that in certain instances, discharges to waters of the state resulting from an operation's failure to comply with a livestock performance standard or prohibition may meet the federal definition of a point source and are required to apply for a WPDES permit. In addition, operations with less that 1,000 animal units would need to apply for a WPDES permit, as required by the Clean Water Act, is they meet the criteria of a point source. While these operations are still eligible for cost sharing, they are required to address the discharge regardless of the availability of cost sharing. A WPDES permit would still only be issued to the operation if it failed to address the discharge.

There may be some controversy associated with changes to NR 243 and requirements for CAFOs. Changes to these requirements may be seen as an attempt by the department to create additional regulatory burden on larger-scale operations as opposed to efforts to clarify existing authority and policies.

Nonagricultural
For non-agricultural runoff, concern was expressed that the proposed performance standards may encourage urban sprawl, as larger areas are needed to install best management practices to meet the performance standards. The infiltration performance standard was modified to address this concern. It is also expected that the performance standards will be administered locally through ordinances and municipal storm water management planning. This allows municipalities the opportunity to control development and the installation of BMPs such that regional facilities are sited to minimize or discourage urban sprawl.

There was also concern that the cost to the developer and the municipality for construction of best management practices and for the administration of municipal programs to handle urban nonpoint sources of pollution would be burdensome. Many of the municipalities identified in the performance standard code will be expected to do many of the same activities under the Phase II Storm Water regulations. EPA has estimated a cost for implementation of Phase II that is likely to be similar to the cost to implement the

performance standards. The difference between the proposed rules establishing performance standards and EPA Phase II Storm Water rules is the number of municipalities affected, since Phase II is not as far reaching as the performance standards.

There was concern that the performance standards did not fit transportation facilities because of their linear nature. Through the efforts of the work groups, issues specific to transportation facilities were addressed and changes made. A lengthy section on responsible party has been added and another section allowing swale treatment to address performance standards for rural road construction.

EA ATTACHMENT 1

SUMMARY OF ISSUE IDENTIFICATION ACTIVITIES

Date	Contact/Comment Summary
10/21/97	Meeting of DNR administration and staff to begin rule development process based on 1997 Act 27 signed the previous week.
11/4/97	Second meeting of DNR staff to begin rule development process.
11/18/97	Third meeting of DNR staff to begin rule development process.
12/1/97	Sub-group met and developed functional approach to rule development.
12/11/97	Fourth meeting of DNR staff to begin rule development process.
1/5/98	Meeting of DNR and DATCP administration and staff to work out rule development proposal
1/27/98	Joint meeting of NR, ATCP, and LWCB Boards for approval of rule development proposal.
3/24/98	Press release announcing listening session; comment period until May 15.
4/8—5/11/98	14 listening sessions held in Richland Center, Waukesha, Green Bay, Black River Falls, Spooner, Rhinelander and Fennimore; 228 attended; 22 written comments + comments on evaluation forms
4/29/98	Press release extending comment period to May 29
5/19/98	Press release on formation & membership of Outreach Advisory Committee and first meeting
5/26/98	Statewide ETN session, 23 counties participated.
6/98	Update to NR Board at June meeting
6/98	Listening session report sent to many internal and external parties
6/8/98	Joint DATCP/DNR staff meeting
6/17/98	First Outreach Advisory Committee meeting; meeting materials mailed to ~100 people
6/98-6/99	Functional work groups met regularly and reported to OAC
8/3/98	Update LWCB on redesign progress and listening session report
8/5/98	Second OAC meeting; meeting materials mailed to ~100 people
9/15/98	Third OAC meeting; meeting materials mailed to ~125 people
10/21/98	Fourth OAC meeting; meeting materials mailed to ~125 people
12/10/98	Fifth OAC meeting; meeting materials mailed to ~125 people
1/20/99	Sixth OAC meeting; meeting materials mailed to ~125 people
2/23/99	ETN program
3/3/99	Seventh OAC meeting; meeting materials mailed to ~125 people
4/7/99	Eighth OAC meeting; meeting materials mailed to ~125 people
6/2/99	Ninth OAC meeting; meeting materials mailed to ~125 people
6/2/99	Joint DNR/DATCP press release announcing listening sessions; posted on website along with location map and option to comment by e-mail
6/10/99	First draft of redesign report sent to ~ 500 people along with 6/2 press release; 3-week comment period; report posted on website
6/14-24/99	Listening sessions held at 8 statewide locations
7/1/99	Evening video conference w. DATCP & DNR secretaries accessible from 7 sites around state
7/8-9/99	Tenth OAC meeting; meeting materials mailed to ~300 people
8/31/99	Eleventh OAC meeting; meeting materials mailed to ~300 people

10/12/99	Twelfth OAC meeting; meeting materials mailed to ~300 people
11/10/99	Thirteenth OAC meeting; meeting materials mailed to ~300 people
12/16/99	DNR meeting with OAC
12/99	Update to NR Board
1/ 00	Requested approval from NR Board to conduct public hearings on administrative rules.
3/13 - 28 /00	22 public hearings and informational meetings held in Green Bay, Rhinelander, Spooner, Ashland, Platteville, La Crosse, Fitchburg, Stevens Point, Fond du Lac, Waukesha, River Falls; over 300 comments received
4/1/00	Informational meeting in New London
5/5/00	Comment period ended; over 1700 written comments received
July-Sept/00	19 meetings of 4 work groups to develop recommendations for key issues raised at public hearings
12/00	Informational presentation to NRB
1/01	Request to NR Board to hold public hearings on rules
3/01	12 public hearings in 6 locations statewide.
1/98-present	Numerous talks to interested parties by staff and administration.

EA ATTACHMENT 2

Nonpoint Source Program Redesign Outreach Advisory Committee

Name	Title/Company
Tariq Akmut	Rockwell Automation/Allen Bradley representing Wisconsin Manufacturers and Commerce
Todd Ambs	Executive Director, River Alliance of Wisconsin
Ron Baba	Senior Advisor, Oneida Tribe
Jeanette Bell	Mayor , City of West Allis
Lisa Conley	Past President, Wisconsin Association of Lakes
Michael Corry	Administrator, Safety and Buildings Division, Department of Commerce
Carol Cutshall	Dir. Bur. Of Environment, Department of Transportation
Jerry Deschane	Director of Government Affairs, Wisconsin Builders Association
Richard DeVriend	Zoning Administrator, Eau Claire County
Marvin Fox	President, Wisconsin Land and Water Conservation Assn.
Dennis Frame	Agriculture Agent, Trempealeau County UWEX
Richard Heinemann	Wisconsin Environmental Decade (Boardman, Suhr, Curry and Field)
Roger Hilliard	Agricultural Producer
Ron Kuehn	Wisconsin Pork Producers, WPVGA, WI Cranberry Growers
Paul Kent	Municipal Environmental Group (Davis and Kuelthau, S.C.)
Pat Leavenworth	State Conservationist, Natural Resources Conservation Service
Jean Schomisch	President, Wisconsin Assn. Of Land Conservation Employees; Eau Claire County Land Conservation Department
Pam Selz-Pralle	Agricultural Producer
Richard Stadelman	Executive Director, Wisconsin Towns Association
Paul Zimmerman	Director of Government Relations, Wisconsin Farm Bureau Federation
Dave Jelinski (Co-Chair)	Director, Land & Water Resources Bureau, DATCP
Al Shea (Co-Chair)	Director, Bureau of Watershed Management, DNR

Sara Johnson, Pat Stevens, Walter Kuhlman, Adam Payne, Pam Porter, and Russ Rasmussen also served on the Outreach Advisory Committee.

Alternates who frequently served on the OAC included Ed Huck, Wisconsin Alliance of Cities for Jeanette Bell, Jordan Lamb for Ron Kuehn, Brett Larson, WLWCA, for Marvin Fox, and Amy Tutwiler for Paul Kent. Other infrequent alternates included Tom Harnisch for Richard Stadelman, John Ramsden and Bob Wilson for Pat Leavenworth, Bruce Johnson, Fox-Wolf 2000 for Ron Baba.

EA ATTACHMENT 3

Functional Work Groups
(June 1998 – June 1999)

Agricultural Performance Standards

Co-Chairs: Keith Foye, Conservation Management Section Chief, DATCP and Jill Jonas, Runoff Management Section Chief, DNR

Members:
Len Olson, DATCP
Doris Thiele, DNR
Mike Volrath, DNR
Dan Simonson, DNR
Pat Murphy, NRCS liaison to DNR

Ad-Hoc Members:
Bob Wilson, NRCS
Bill Schuster, Door County LCD
Bill Wenzel, WI Rural Development Center
Bruce Haukom, Jefferson Co. Zoning Administrator

Non-Agricultural Performance Standards

Co-Chairs: Sharon Gayan, Milwaukee River GMU Leader, DNR and Lynita Docken, Dept. of Commerce

Members
Jim D'Antuono, DNR
Roger Bannerman, DNR
Mary Ann Lowndes, DNR
Steve Struss, DATCP
Anna Sundberg, DOT
Roman Kaminski, Commerce
Jim Quast, Commerce
Eric Hands, Commerce
Carolyn Johnson, UWEX

Ad Hoc Members
Kevin Connors, Dane County Conservationist
Jerry Deschane, WI Builders Assn.
Edward Huck, WI Alliance of Cities
Jordan Lamb, rep. WI Pork Producers, WI Potato & Vegetable Growers Assn., WI Cranberry Growers
Perry Linquist, Washington County Conservationist
Dale Shaver, Waukesha County Land Conservation Manager
Aicardo Roa, Urban Conservationist, Dane County Land Conservation Dept.
Ed Wilusz, WI Paper Council

Compliance

Co-Chairs: Ed Odgers, Conservation Engineering Section Chief, DATCP and Gordon Stevenson, Assistant Runoff Management Section Chief (originally chaired by Mike Witt)

Members:
Ralph Hemling, Engineering Specialist, DATCP
John Paddock, Lower Chippewa Basin Leader, DNR
Robin Nyfeler, Attorney, DNR
Tom Bauman, Animal Waste Specialist , DNR
Steve Sisbach, Environmental Enforcement, DNR
Craig Webster, Animal Waste Investigator, DNR

Financial Assistance

Co-Chairs: Barb Kneer, Financial Assistance Section Chief, DNR and Mary Rose Teves, Planning and Grants Management Unit Leader, DATCP

Members:

Kirsten Grinde, Budget Analyst, Dept. of Administration
Cindy Hoffland, DNR
John Pfender, DNR
Ruth Johnson, DNR
Carol Nelson, DATCP
Tim Parsons, DNR

Nutrient Management

Co-Chairs: Jim Vanden Brook, DATCP and Richard Wedepohl, DNR

Agency Members:

Jennifer Heaton, DATCP
Mike Lemcke, DNR
Sue Porter, DATCP
Greg Searle, DNR

Other Members

Larry Bundy, UW Madison Soils Dept.
Tom Davies, Winnebago Co. LCD
Bob Dummer, Farmer, ATCP Board member
Pete Knigge, Farmer, ATCP Board member
Greg Langer, Cottage Grove Co-op Division Manager
Fred Madison, UW Madison, WGNHS
Pat Murphy, NRCS liaison to DNR
Harriet Pedley, Richland Co. Zoning Administrator
Jeffrey Polenske, Independent Crop Consultant, Appleton
Todd Prill, Chippewa Co. LCD
Scott Sturgul, NPM Nutrient Specialist, UW Madison

Technical Standards

Co-Chairs: Ed Odgers, Conservation Engineering Section Chief, DATCP and Gordon Stevenson, Assistant Runoff Management Section Chief

Members:

Jim Quast, Commerce
Anna Sundberg, DOT
Brian Holmes, UWEX
Dennis Biddick, DATCP
Gail Puzach, DNR
Terry Donovan, DNR
John Ramsden, NRCS

EA ATTACHMENT 4

Nonpoint Rules Issues Work Groups
(July – September 2000)

Agricultural Standards Work Group

Name	*Representing*
Todd Ambs	River Alliance of Wisconosin
Allen Brooks	Crop Agricultural Producer
George Raab	Animal Agricultural Producer – Turkey Store
Richard Gorder	Animal Agricultural Producer
Michael Tiry	Agricultural Consultant – Tiry Engineering
Paul Zimmerman	Wisconsin Farm Bureau
Ed Odgers	Wisconsin Dept. of Agriculture, Trade, and Consumer Protection
William Schuster	WI Assn of Land Conservation Employees – Door Co. LCD
John Pingry	USDA – Natural Resources Conservation Department
Brian Holmes	University of Wisconsin – Extension
Robin Nyffeler	DNR – Legal Services
Russ Rasmussen	DNR – Runoff Management Section
Tom Bauman	DNR – Runoff Management Section
Terry Donovan	DNR - Runoff Management Section
John Paddock	DNR – West Central Region

Meetings were held on July 26, August 8, August 24, Sept. 14 and Sept. 25, 2000 to discuss the following key issues:

- Methods of dealing with soil loss from riparian areas and/or limiting contaminated runoff from agricultural fields to surface waters.
- How to clearly define new versus expanding operations as it relates to cost-share eligibility and the factors needed to make this determination.
- Clarification of Water Quality Management Areas (WQMAs) as they relate to sinkholes, shallow soils and bedrock, and the potential groundwater impacts.
- Clarification of restrictions on cattle access and maintaining adequate sod cover and provisions for livestock crossings.

Agricultural Performance Standards Implementation & Enforcement Work Group

Name	*Representing*
Troy Kuphal	WALCE / WLWCA
Don Franke	La Crosse County
Don Bina	Agricultural producer / LWCB
Judy Joos	Wis. Assn. of Lakes
Lisa Conley	Wis. Assn. of Lakes
Keith Reopelle	Wis. Envir. Decade
Rick Stadelman	Wis. Towns Assn.
Len Olson	DATCP
John Pfender, Co-chair	DNR - Runoff Management Section
Gordon Stevenson, Co-chair	DNR - Runoff Management Section
Tim Parsons	DNR - Community Financial Assistance Section
Robin Nyffeler	DNR - Bureau of Legal Services
Chuck Hammer	DNR - Bureau of Legal Services
John Young	DNR - Northeast Region

Meetings were held on July 17, August 9, August 29, Sept. 13 and Sept. 28, 2000 to discuss the following key issues:

- Ways to strengthen the implementation and enforcement strategy set forth in proposed chapter NR 151.09 and subchapter II of NR 243. The work group will look for ways to clarify the roles and responsibilities of state and local governments and how they are to interact with each other.
- Ways to achieve better integration of state and local resource management efforts through the grant programs in proposed chapter NR 153.
- Ways to improve the economic hardship provisions of the administrative rules.

Non-Agricultural Issues Work Group

Name	*Representing*
Perry Lindquist	Waukesha Co. LCD
Lynita Docken	Dept. of Commerce
Dave Zaber	Environmental Decade
Judy Neu	City of West Bend
Greg Fries	City of Madison
Sue Olson	City of Appleton
Jerry Deschane	Wisconsin Builders Association
Paul Kent	Municipal Environmental Group
Jim Bachhuber	Earth Tech Consultant
Mary Anne Lowndes – Chair	DNR – Runoff Management Section
Roger Bannerman	DNR – Fish and Habitat
Laura Chern	DNR - Bureau of Drinking Water & Groundwater
Tim Parsons	DNR – Community Financial Assistance Section
Dan Graff	DNR – Bureau of Legal Services
Pete Wood	DNR - Southeast Region

Meetings were held on July 26, August 17, August 29 and September 19, 2000 to discuss the following key issues:

- The infiltration standard as currently written may be difficult to implement for a number of reasons. The work group will consider changes that may make it safer, more acceptable and dependable.
- Concern has been raised about the amount of phosphorus used by homeowners on their lawns and whether a performance standard is needed.
- The performance standards strongly encourage street sweeping, but this is not a common cost-shareable BMP.
- The work group will investigate ways to implement the non-agricultural performance standards outside NR 216 permitted communities.

Transportation Facility Performance Standards Work Group

Name	*Representing*
Dan Scudder	Dept. of Transportation
Dan Fedderly	Wis. County Highways Association
Caryl Terrell	Sierra Club
Carrie Bristoll-Groll	City of Brookfield
Tom Walker	Transportation Builders
Tim Spierschneider	Transportation Builders
Eric Rortvedt, Chair	DNR - Runoff Management Section
Russ Rasmussen	DNR - Runoff Management Section
Dan Graff	DNR - Bureau of Legal Services
Russ Anderson	DNR – South Central Region (DOT Liaison)

Meetings were held on June 29, August 2, August 23, September 12 and September 29, 2000 to discuss the following key issues:

- The current DNR version of the transportation performance standards will be the starting point for discussion of the concerns voiced by transportation organizations. Modifications will be made to this version rather than the DOT version.
- To what transportation facilities should this chapter apply, and is there a reason for separate standards for local versus rural road projects.
- To what transportation facilities should the post-construction standard apply.
- Are there better performance standards for construction site erosion control than the goal of 80%.